

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 5. Portable Engine and Equipment Registration

§ 2456. Engine Requirements.

(a) For TSE, no air contaminant shall be discharged into the atmosphere, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke designated as No. 2 on the Ringelmann Chart. No other requirements of this section are applicable to TSE.

(b) A new nonroad engine rated less than 175 brake horsepower used in construction equipment as defined in 40 CFR Part 85, Subpart Q, section 85.1601 et seq. shall use only fuels meeting the standards for California motor vehicle fuels as set forth in chapter 5, division 3, Title 13 of the California Code of Regulations, commencing with section 2250; comply with the applicable daily and annual emission limits contained in section 2456(j) of this article; and is exempt from further requirements of this section.

(c) Diesel pile-driving hammers shall comply with the applicable provisions of section 41701.5 of the California Health and Safety Code and are otherwise exempt from further requirements of this section.

(d) To be registered in the Statewide Registration Program, a registered portable engine rated less than 50 brake horsepower shall comply with the most stringent requirements, if any, for its horsepower rating and year of manufacture set forth in 40 CFR Part 89 or Title 13, California Code of Regulations. If no emission standards exist for that brake horsepower and year of manufacture at the time of registration, the engine shall comply with the applicable daily and annual emission limits contained in section 2456(j) of this article. No other requirements of this section are applicable to portable engines rated less than 50 brake horsepower.

(e) Portable engines registered under this article shall:

(1) comply with the applicable daily and annual emission limits contained in section 2456(j) of this article;

(2) use only fuels meeting the standards for California motor vehicle fuels as set forth in chapter 5, division 3, Title 13 of the California Code of Regulations, commencing with section 2250;

(3) not exceed particulate matter emissions concentration of 0.1 grain per standard dry cubic feet corrected to 12 percent CO₂;

(4) not discharge air contaminants into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as or darker than Ringelmann 1 or equivalent 20 percent opacity;

(5) for an engine manufactured before January 1, 1996, meet the applicable requirements of Table 1 for compression-ignition engines or Table 2 for spark-ignition engines;

(6) for an engine manufactured on or after January 1, 1996, meet the most stringent emissions standard;

(7) except for an engine that qualifies as a resident engine, regardless of engine manufacture date, if registering on or after July 1, 2000, meet the most stringent emissions standards for the applicable brake horsepower range specified for California- or federally-certified newly- manufactured engines; if no emissions standards exist, then the applicable requirements contained in Table 1 or Table 2 must be met;

(8) on or after July 1, 2001, except for change of ownership, applications filed for registration or identical or equivalent replacement of a registered portable engine, meet the most stringent emissions standard;

(9) after January 1, 2010, if rated 50 brake horsepower or above and not previously meeting a federal or California standard pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations, meet the most stringent emissions standard (resident portable engine must reapply at this time and demonstrate compliance with the most stringent emissions standard); and

(10) For the purpose of sub-section (e), the most stringent emissions standard shall be the applicable emissions standard in effect at the time an application is deemed complete and set forth in Title 13 of the California Code of Regulations for that engine rating. If no emissions standard exists under the California Code of Regulations, then the applicable emissions standard set forth in 40 CFR Part 89 shall apply. If no standard exists under the California Code of Regulations or 40 CFR Part 89, then the applicable requirements of Table 1 for compression-ignition engines or Table 2 for spark-ignition engines shall apply. Any engine meeting the most stringent emission standard, as defined above, is not subject to requirements (3) and (4) of sub-section (e).

(f) Subject to Executive Officer approval, the owner or operator of a registered portable engine may obtain a temporary exemption, not to exceed 18 months in duration, except as provided in section 2456(g), from daily and annual emission limits, and recordkeeping and reporting requirements, by submitting a compliance plan (in a format to be specified by prior agreement with the Executive Officer) to replace the existing portable engine with a newly-

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 5. Portable Engine and Equipment Registration

manufactured engine or to modify the existing portable engine to satisfy the requirements that have been set for new engines under 40 CFR Part 89 or Title 13 of the California Code of Regulations or for spark-ignition engines that satisfy the more stringent of either an applicable emissions standard in effect at the time of application or the applicable emissions standard set forth in Table 2 of this regulation for nonresident engines. For the purposes of this section, a compliance plan shall include at a minimum:

- (1) registration number of portable engine being replaced or modified;
- (2) a schedule of increments of progress, which will be taken to replace or modify the registered portable engine;
- (3) the proposed date of replacement or completion of modifications;
- (4) the name of applicant, and a contact person including mailing address and telephone number;
- (5) a brief description of typical portable engine use;
- (6) newly-manufactured portable engine description, including portable engine make, model, manufacture year, rated brake horsepower, emission control engine, and serial number;
- (7) detailed description of proposed modifications, including make and model of any add-on equipment;
- (8) all necessary engine engineering data, emissions test data, or manufacturer's emissions data to demonstrate compliance with the requirements as specified in section 2456; and
- (9) the signature of person authorized to act on behalf of the applicant and date of the signature.

[Note: An owner or operator may revise a compliance plan by submitting a modified plan to the Executive Officer at least 30 calendar days prior to the date of replacing or modifying the portable engine. The modified compliance plan shall not extend the temporary exemption from daily and annual emission limits for the registered portable engine beyond the applicable time frame allowed. Misrepresentation of portable engine information in the compliance plan or failure to comply with an approved compliance plan may result in the registration being revoked and the owner or operator being subject to penalties.]

(g) At the discretion of the Executive Officer, the temporary exemption of section 2456(f) may be increased to 24 months for applications to replace or modify 50 or more engines and 36 months for applications to replace or modify 100 or more engines. In order to keep the 24 month or 36 month temporary exemption, the owner or operator must demonstrate measurable progress toward replacement or modification. Measurable progress shall be defined as 40 percent of the total number of engines replaced or modified each year reaching full replacement or modification by the end of the exemption period. As proof of measurable progress, the owner or operator shall provide the Executive Officer an annual report, within 60 days after the end of each calendar year, to include the reporting year, the number of engines replaced along with their registration numbers, and the number of engines modified along with their registration numbers.

(h) A registered portable engine owned and operated by a rental business and designated for use as a rental engine shall have operational and properly maintained non-resettable time meters or fuel flow meters for purposes of complying with the requirements of section 2458.

(i) Subject to Executive Officer approval, 4-degree injection timing retard is not required for compression-ignition engines if it can be demonstrated that such modification is technologically infeasible, may cause potential engine damage, or cause an exceedance of a pollutant standard (e.g., opacity limit). The Executive Officer shall consider appropriate documentation, including, but not limited to: cost effectiveness studies or engineering analyses. The Executive Officer may grant exemptions or require reduced injection timing (e.g., 3-, 2- or 1-degree) as determined appropriate on a case-by-case basis, for specific identical engines of the same make, model, model-year, and configuration.

(j) Registered portable engines shall not exceed the following emission limits:

- (1) 550 pounds per day per engine of carbon monoxide (CO);
- (2) 150 pounds per day per engine of particulate matter less than 10 microns (PM10);
- (3) for registered portable engines operating onshore, 10 tons for each pollutant per district per year per engine for NO_x, SO_x, VOC, PM10, and CO in nonattainment areas;
- (4) for registered portable engines operating within STW:

(A) the offset requirements of the corresponding onshore district apply. Authorization from the corresponding onshore district is required prior to operating within STW. If authorization is in the form of a current district permit, the terms and conditions of the district permit supercede the requirements for the project, except that the most

Board Administration and Regulatory Coordination Unit

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 5. Portable Engine and Equipment Registration

stringent of the technology and emission concentration limits required by the district permit or statewide registration are applicable. If the portable engine does not have a current district permit, the terms and conditions of the statewide registration apply, and the corresponding onshore district may require offsets pursuant to district rules and regulations. The requirement for district offsets shall not apply to the owner/operator of a state registered engine(s) when the engine(s) is operated at a stationary source permitted by the district; and

(B) the corresponding onshore district may perform an ambient air quality impact analysis (AQIA) for the proposed project prior to granting authorization. The owner/operator of state registered engine(s) shall be required, at the request of the district, to submit any information deemed by the district to be necessary for performing the AQIA. Statewide registration shall not be valid at any location where the AQIA demonstrates a potential violation of an ambient air quality standard.

(5) for resident engines operating in the South Coast Air Quality Management District (SCAQMD), 100 pounds nitrogen oxides (NO_x) per project per day [An owner may substitute SCAQMD permit or registration limits in effect on or before September 17, 1997 (optional)];

(6) for nonresident engines, 100 pounds NO_x per engine per day, except in SCAQMD where the limit is 100 pounds NO_x per project per day; and

(7) in lieu of (5) and (6) above, operation of a new nonroad engine rated at 750 brake horsepower or greater for which a federal or California standard pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations has not yet become effective, shall not exceed 12 hours per day.

(8) for engines that operate in both STW and onshore, the 10 tons per district per year per engine limit in (3) above shall only apply onshore.

(9) A portable engine meeting an applicable emissions standard, as set forth in Title 13 of the California Code of Regulations or 40 CFR Part 89, or for spark-ignition engines that meet the more stringent of either an applicable emissions standard in effect at the time of application or the applicable emissions standard set forth in Table 2 of this regulation for nonresident engines, is exempt from the daily and annual emission limits specified above.

(k) Portable engines operated on a dredge shall be subject to the emission controls and limits as follows:

(1) for resident dredge engines, meet section 2456(e) requirements;

(2) for non-resident dredge engines, meet the most stringent emissions standards for the applicable brake horsepower range specified for California- or federally-certified newly-manufactured engines pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations; and

(3) for all engines operated on a dredge, meet the most stringent emission standard pursuant to 40 CFR Part 89 or Title 13 of the California Code of Regulations by January 1, 2005.

(l) Registered TSE is exempt from district New Source Review and Title V programs, including any offset requirements. Further, emissions from registered TSE shall not be included in Title V or New Source Review applicability determinations.

NOTE: Authority cited: Sections 39600-39601, 41752-41755, 43013(b) and 43018, Health and Safety Code. Reference: Sections 41750-41755, Health and Safety Code.

REFERENCE

Division 3. Air Resources Board

Chapter 9. Off-Road Vehicles and Engines Pollution Control Devices

Article 5. Portable Engine and Equipment Registration

Table 1. Compression-Ignition Engine Requirements*

<i>Rated Brake Horsepower</i>	<i>Resident Engine</i>	<i>Non-Resident Engine</i>
50-116	810 ppm _{dv} NO _x (10.5 g/bhp-hr)** or turbocharger or 4-degree injection timing retard***	770 ppm _{dv} NO _x (10.0 g/bhp-hr)** or turbocharger and 4-degree injection timing retard***
117-399	770 ppm _{dv} NO _x (10.0 g/bhp-hr)** or turbocharger and aftercooler/intercooler or 4-degree injection timing retard***	550 ppm _{dv} NO _x (7.2 g/bhp-hr)** or turbocharger and aftercooler/intercooler and 4-degree injection timing retard***
400-749	550 ppm _{dv} NO _x (7.2 g/bhp-hr)** or turbocharger and aftercooler/intercooler or 4-degree injection timing retard***	535 ppm _{dv} NO _x (7.0 g/bhp-hr)** or turbocharger and aftercooler/intercooler and 4-degree injection timing retard***
750+	550 ppm _{dv} NO _x (7.2 g/bhp-hr)** or turbocharger and aftercooler/intercooler or 4-degree injection timing retard***	535 ppm _{dv} NO _x (7.0 g/bhp-hr)** or turbocharger and aftercooler/intercooler and 4-degree injection timing retard***

*These requirements are in addition to requirements of sections 2455 and 2456.

**For the purpose of compliance with this article, ppm_{dv} is parts per million @ 15 percent oxygen averaged over 15 consecutive minutes. Limits of ppm_{dv} are the approximate equivalent to the stated grams per brake horsepower hour limit based on assuming the engine is 55 percent efficient.

***Requirements for 4-degree injection timing retard is not required where it can be demonstrated technologically infeasible to the satisfaction of the Executive Officer. (Refer to paragraph i)

Table 2. Spark-Ignition Engine Requirements*

<i>Engine Status</i>	<i>Pollutant Emission Limits or Control Technology</i>		
	<i>NO_x**</i>	<i>VOC**</i>	<i>CO**</i>
Resident	213 ppm _{dv} NO _x (4.0 g/bhp-hr)**	800 ppm _{dv} VOC (5.0 g/bhp-hr)	17,600 ppm _{dv} CO (200 g/bhp-hr)♣
	or three-way catalyst***	or three-way catalyst***	or three-way catalyst***
	or 15 lbs/day (except in the SCAQMD)	or 25 lbs/day (except in the SCAQMD)	or 550 lbs/day (except in the SCAQMD)
Non-Resident	80 ppm _{dv} NO _x (1.5 g/bhp-hr)**	240 ppm _{dv} VOC (1.5 g/bhp-hr)	176 ppm _{dv} CO (2.0 g/bhp-hr)

*These requirements are in addition to requirements of section 2455 and 2456.

**For the purpose of compliance with this article, ppm_{dv} is parts per million @ 15 percent oxygen averaged over 15 consecutive minutes. Limits of ppm_{dv} are the approximate equivalent to the stated grams per brake horsepower hour limit based on assuming the engine is 24.2 percent efficient.

***The three-way catalyst must provide a minimum of 80 percent control of NO_x and CO, and a minimum of 50 percent control of VOC.

♣ At the request of the Executive Officer, CO modeling may be required to demonstrate compliance with ambient air quality standards.